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FACES OF IOWA'S MIDDLE CLASS


By Mike Kilen
mkilen@dmreg.com

Working for the rich man, paying for the poor.
Sounds like a song that could be written for next week's presidential election — "The Middle Class Blues."
Jennifer Erickson of the little southwest Iowa town of Massena could add lyrics.
President Barack Obama champions the poor who need assistance, Erickson said, and opponent Mitt Romney is for the ultra rich who benefit more from his proposed tax

breaks. "Either way," she said, "the middle class loses."
Erickson's family was among three middle-class Iowa households who were still struggling to decide for whom to vote in the weeks leading up to the Nov. 6 presidential election. They allowed us a glimpse into their lives and their voting decisions.
These middle-class families have been the candidates' prime target for months, and for good reason: They're ticked off and need some love.

See **MIDDLE**, Page 6A

Less than 10 days before the election, Barack Obama and Mitt Romney are making their closing arguments to America's middle-class voters. Here's a glimpse into the lives of three middle-class families in Iowa.



A REGISTER SPECIAL REPORT

IOWA FERTILIZERS SPUR ECONOMIC LOSSES IN GULF

DEAD ZONE

By Perry Beeman | The Register

CHAUVIN, La. — Louisiana shrimpers and other commercial fishermen harvest the sea, much as Iowa farmers reap the bounty of the fertile Midwest soil. But they've fallen on hard times here along the Gulf of Mexico. Still reeling from the BP oil spill, they suffer an annual plague even more persistent than the droughts or floods Midwest farmers sometimes face: the Gulf dead zone, a huge swath unable to support aquatic life.

The reason is nitrate pollution, carried down the Mississippi River and deposited into the Gulf. Much of it runs off fertilized cornfields in the Midwest, led by Iowa and Illinois. Shrimpers and others here are looking upstream for solutions. Learn more of the dead zone's causes and consequences. **Read the four-page special report, Pages 11A-14A**

MISSISSIPPI RIVER

FARMING AT ROOT OF DEADLY, COSTLY PROBLEM

Iowa grows more corn than any other state, with farmers using both commercial fertilizers and manure to grow that coveted grain. The U.S. Geological Survey estimates that slightly more than half the nitrogen disrupting the Gulf comes from corn and soybean fields, and just 9 percent from urban sources such as yards and sewage-treatment plants. The runoff flows down rivers to the Gulf.

IOWA STREAMS POLLUTED

Fertilizer runoff does plenty of damage in Iowa before running to the Gulf, increasing water-treatment costs, feeding toxic algae blooms and promoting bacterial outbreaks harmful to swimmers.

MISSISSIPPI DELIVERY

Nitrates from fertilizer and sewage in Iowa end up in the Mississippi River, which dumps into the Gulf of Mexico. That causes a dead zone unable to sustain aquatic life. Illinois is the top source at 16.8 percent, Iowa second at 11.3 percent.

IMPACT ON SHRIMPERS

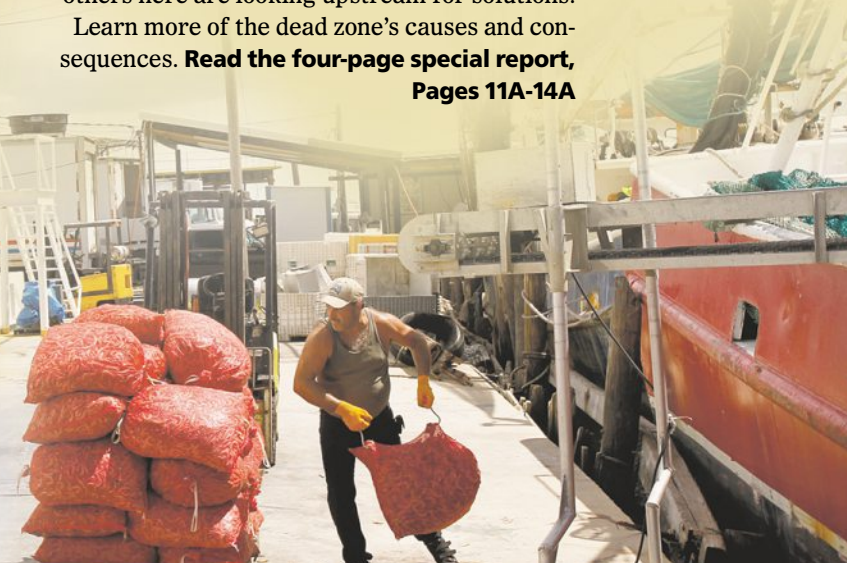

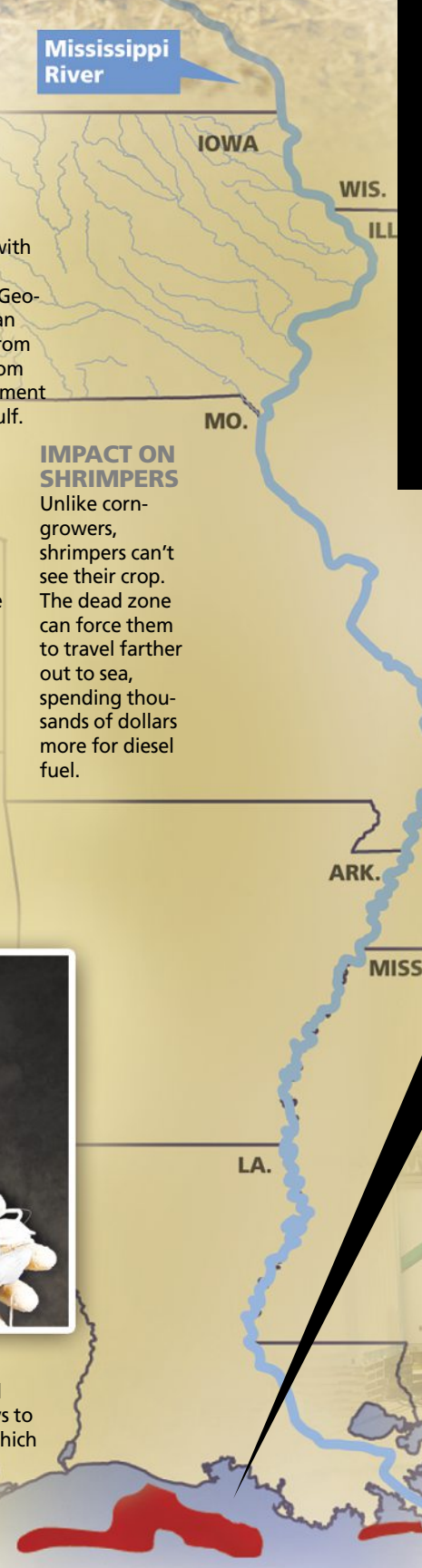
Unlike corn-growers, shrimpers can't see their crop. The dead zone can force them to travel farther out to sea, spending thousands of dollars more for diesel fuel.

COMING MONDAY

Farmers, scientists, environmental groups and government agencies are looking at new ways to reduce runoff in the Mississippi River basin, which covers all or parts of 31 states. The Register examined a range of techniques, including planting a winter crop of rye to hold the soil, and using wetlands to break down pollutants.

DEAD ZONE

GO TO DESMOINES REGISTER.COM/deadzone



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DEAD ZONE

The shrimpers are farmers of the sea, and they don't get no kind of assistance from the government. They can't buy insurance."



DIRK GUIDRY, former Chauvin, La., shrimper

Runoff from Iowa farms growing concern in Gulf



A worker sizes shrimp during unloading in Cocodrie, La., last July. The Gulf of Mexico shrimping industry is impacted by farming in the Midwest. TYLER KAUFMAN/THE REGISTER

Shrimping is endangered despite efforts to restore area

By Perry Beeman
pbeeman@dmreg.com

CHAUVIN, La. — Generations of shrimpers, crabbers and oystermen have set out from this bayou village to net their catch.

They share an emotional bond with Iowa's farmers: Both harvest nature's bounty to earn a livelihood. These fishermen depend on the sea, just as the nation's top corn growers rely on the rich Midwest soil.

But there's a key difference. Iowa farmers always know where they'll find their crop. For those who work these waters, locating their harvest has become an increasingly taxing game of hide-and-seek.

Nitrates from the fertilizer and manure that Iowa's farmers apply to their fields, mixed with sewage and runoff from suburban lawns, flow 800 miles down the Mississippi River to the Gulf of Mexico.

There, the potent blend feeds algae that bloom, die and decompose, robbing the Gulf's waters of oxygen and creating a so-called dead zone — also known as hypoxia — each summer along Louisiana and Texas. Shellfish and other creatures capable of moving to more hospitable waters do so.

Those that can't perish.

Since the dead zone's discovery four decades ago, the federal government has spent billions of dollars to study its origins and reduce its impact. But instead of slowing, the tox-



Darren Martin of Martin's Fresh Shrimp in Chauvin, La., checks his nets. PERRY BEEMAN/THE REGISTER

ic flow of nitrates has increased — along with the average size of the dead zone, a Des Moines Register investigation has found.

In Iowa alone, farmers have received \$3.3 billion in federal payments since 1995 from the Conservation Reserve Program — more than any other state. The program is intended to reduce runoff and erosion and preserve wildlife habitat by encouraging land owners not to plant crops on the most erosion-prone portions of their land.

The U.S. Department of Agriculture has spent another \$223 million over the past two years on water quality improvement projects in Iowa and other states in the Mississippi River watershed.

Yet despite such efforts, the bond of river and nature between Iowa and Louisiana has grown ever more strained: What helps one crop thrive causes the other to move on or die.

Among the Register's findings:

- » Nine states account for 75 percent of the nitrates flowing into the Gulf. Over 11 percent of that comes from Iowa, making it and Illinois, which contributes more than 16 percent, the two largest sources.
- » The vast majority of that nitrate pollution — about 70 percent — is the result of agricultural runoff, according to the U.S. Geological Survey. And as demand for corn, soybeans and other crops has soared in recent years, farmers here and elsewhere have faced increasing pressure to plant more acres and use more fertilizer.
- » Voluntary programs, including some backed with billions of dollars in federal subsidies, have failed to stem the fertilizer runoff rushing downstream to Louisiana. Even as efforts were under way to reduce runoff 45 percent by 2015, data show ni-

See ZONE, Page 10A

Farmers motivated to help the cause

By Perry Beeman
pbeeman@dmreg.com

Farmers tire of being blamed for the Gulf of Mexico's dead zone, says Dennis Friest, who farms near Garden City in north-central Iowa.

And he, like some others, wonder how much it will improve, even if farmers reduce runoff pollution.

"Everybody has heard of it," Friest, said of the lower oxygen levels that plague vast stretches of Gulf waters each summer. "How much they can influence it and improve it, I don't know if they know."

The problem, also known as hypoxia, is largely caused by excessive levels of nitrogen carried down the Mississippi River and deposited into the Gulf. Fertilizer and manure spread on farm fields in nine Midwest farm account for 75 percent of that pollution, and Illinois and Iowa are the two biggest contributors.

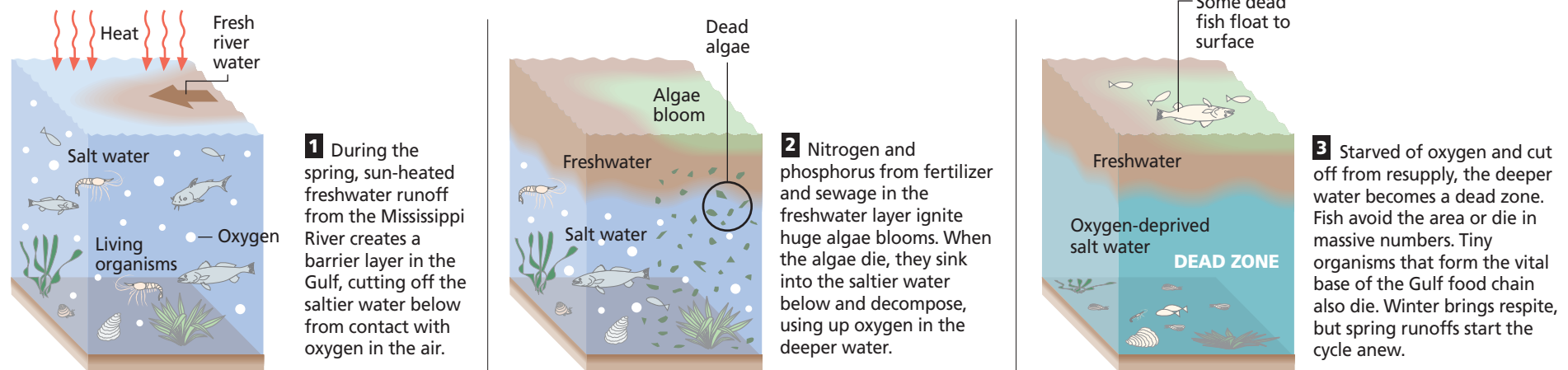
"We're learning," says Friest, 66. "Money needs to be spent to get more farmers involved. Regulations don't work."

See FARMERS, Page 11A

REACTION FROM IOWA FARMERS

What is a dead zone?

Nitrogen and phosphorus from crop and lawn fertilizers, and manure applied to corn fields and from sewage treatment plants cause a summertime lifeless zone in the Gulf of Mexico. Here's how:



DEAD ZONE

“We always had the dead zone, but with BP (the oil spill), it’s gotten a hell of a lot worse. The last two years were probably the worst years since I’ve been shrimping.”

KENNETH THERIOT, shrimp, of Chauvin, La.

“We need to make it clear that there are water quality problems (in Iowa). We have work to do here. You don’t have to go 850 miles downstream.”

KARL BROOKS, regional administrator of the U.S. Environmental Protection Agency, during a stop at the Iowa State Fair

DEAD ZONE



Jeffrey Authement prepares to vacuum shrimp from a boat at RCP Seafood in Cocodrie, La. TYLER KAUFMAN/THE REGISTER

ZONE

Continued from Page 9A

trate levels have instead jumped another 10 percent since 1980.

» Some neighboring states, Minnesota and Wisconsin among them, limit how much nitrogen or phosphorus can enter waterways. Iowa’s political leaders, farm organizations and many individual farmers have opposed similar restrictions.

» Elevated nitrate levels in rivers and streams are also exacting a toll in Iowa, causing bacteria outbreaks in lakes, threatening fish populations and triggering higher water treatment costs. That means bigger water bills for residential and business users.

To be sure, few people here — from the governor to the Gulf fishermen whose livelihoods are in jeopardy — underestimate the importance of agriculture in Iowa and throughout the Midwest. They understand the region feeds the nation.

In an interview with the Register, Louisiana Gov. Bobby Jindal said he’d like to see more progress more quickly. But he stopped short of calling for tough regulations in farm states upstream.

Jindal said restoring the Gulf will take cooperation among the states. “I think it’s a national treasure we all need to be worried about,” he said. “We all have to work together on using the best science, the best techniques when it comes to soil management. That’s good for farmers as well. There are things we all can do.”

Jindal’s counterparts in Iowa, even those of different political stripes, also oppose mandatory measures that might limit fertilizer use.

Gov. Terry Branstad and U.S. Agriculture Secretary Tom Vilsack worry about the damage that could do to agriculture, a vital part of the state’s economy.

“We want to do all that we can,” said Branstad, a Republican. “But we have to be careful of unintended consequences of overreaction and over-regulation. That that can be devastating.”

Vilsack, a Democrat and Iowa’s governor from 1998 to 2006, agrees. He favors voluntary programs that would reward farmers who choose improved conservation practices.

“You start regulating and people look at how to get around it,” Vilsack said. “If you don’t have the capacity to enforce it, what good does it do?”

WHAT IS HYPOXIA?

Hypoxia is the low-oxygen condition that sends shrimp and crabs migrating in search of more hospitable waters.

When the Mississippi and Atchafalaya rivers spill into the Gulf, fresh water forms a layer on top of the salt water, acting like a lid that keeps surface oxygen from reaching deep water. In a typical year, that means the hypoxia, or low oxygen, lasts in the deep water from spring into fall.

Waters with dissolved oxygen of less than 2 milligrams per liter are considered hypoxic.

SHRIMP PRICES TUMBLE

A sign at Martin’s Fresh Shrimp in Chauvin, La., last summer encouraged people to buy local shrimp, not imports that account for 90 percent of the U.S. market.

Shrimpers blame imports from China, Vietnam and elsewhere for depressing prices.

Shrimpers in July were getting about \$3 a pound for their catch. Years ago, wholesalers were paying as much as \$9 a pound.

Shrimp vs. corn

Former shrimper Dirk Guidry, sold his boat and opened a pizza restaurant in this town of 2,900, people, about 70 miles southwest of New Orleans.

He grudgingly accepts the economic and political realities facing many of his friends and neighbors still in the shrimping business.

“Corn is a more important crop in the U.S. than shrimp. You have to have corn, but you don’t have to have shrimp,” said Guidry, 56. “But that has an effect on us. I don’t think people in Iowa, Illinois and Nebraska understand that.”

Some years the problem is worse than others. Thanks to the prolonged drought that has gripped the Midwest and reduced the Mississippi and Missouri rivers to a relative trickle in places, this year’s dead zone is the fourth-smallest on record.

Even so, the Gulf hypoxia zone in July measured 2,889 square miles. That’s the equivalent of about 5,550 average-sized Iowa farms of 333 acres — each no longer able to grow corn or soybeans, graze cattle or support life of any kind.

It’s also about half again larger than the 1,930 square mile target that a federal task force in 2001 hoped could be achieved by 2015. Even the most hopeful scientists and researchers now admit that goal is beyond reach.

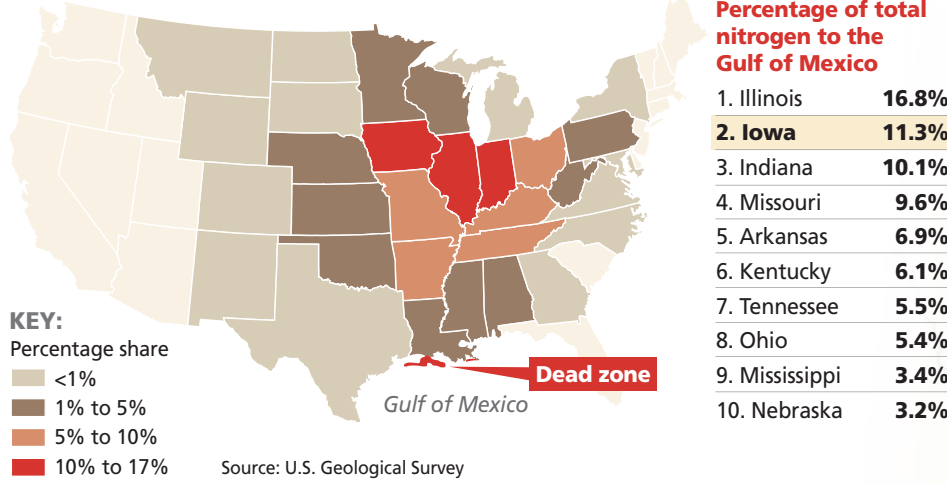
“We obviously aren’t going to get there,” said Nancy Rabalais, an aquatic scientist who has studied the Gulf dead

Nitrates flow, trouble grows

Upper Mississippi states contribute most to dead zone

The U.S. Geological Survey reports that nine states, including Iowa, contribute 75 percent of the nitrogen and phosphorus running into the Gulf of Mexico, where the chemicals cause a large lifeless zone each summer. Nitrogen and phosphorus occur naturally and are essential to plant life, but the USGS blames farm fertilizers containing the elements for most of the trouble in the Gulf, one of the nation’s top shrimping areas.

Nitrogen contributions to the Gulf by state



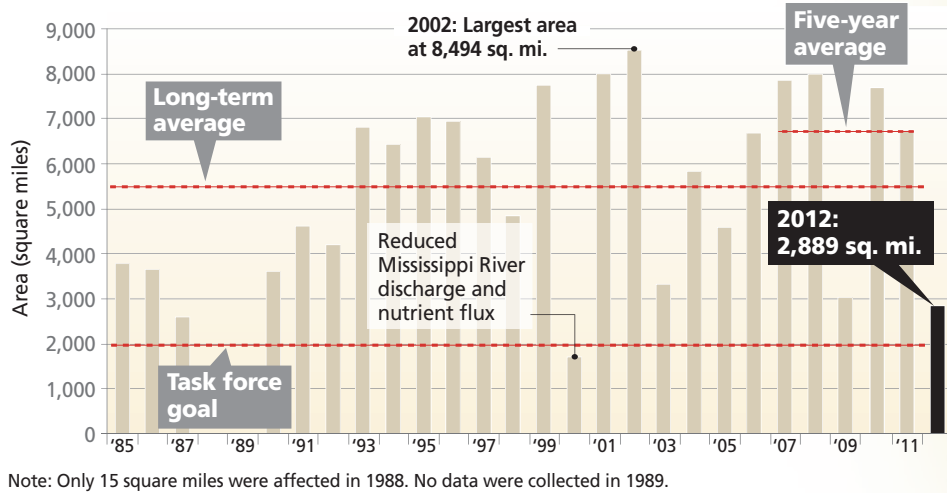
Sources of nitrogen blamed for Gulf dead zone

The U.S. Geological Survey estimates that 70 percent of the nitrogen running into the Gulf of Mexico comes from agriculture across 31 states.

Source: U.S. Geological Survey, Gulf of Mexico Alliance

Dead zone remains bigger than task force goal

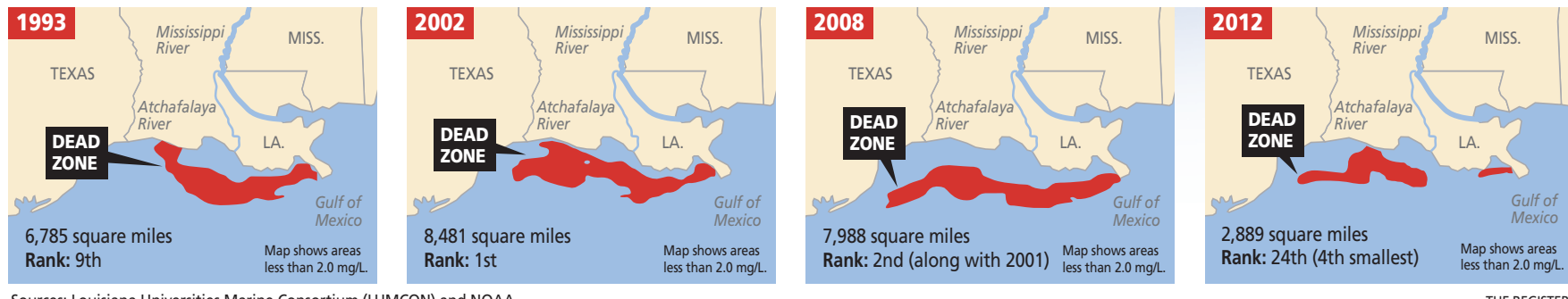
A federal task force has called for actions across the Mississippi River basin to help reduce the size of the annual dead zone in the Gulf of Mexico. But despite decades of work to cut runoff, the zone typically still is the size of a small state. This year, when drought cut the zone’s size, it remained far bigger than a federal task force wants.



Note: Only 15 square miles were affected in 1988. No data were collected in 1989.

Annual cruises find dead zone varies

Scientists aboard the Louisiana University Marine Consortium research vessel Pelican measure the size of the dead zone each year. The area with low-oxygen conditions has fluctuated from nearly nothing to the size of Massachusetts since 1985, depending on how much water is flushing down the Mississippi and Atchafalaya rivers, and how much nitrate from farm fields and sewage treatment plants rides along.



Sources: Louisiana Universities Marine Consortium (LUMCON) and NOAA

zone annually since 1985 for the Louisiana Universities Marine Consortium, one of the foremost marine research centers in the U.S.

Shrimpers’ crop is moving, shrinking

The runoff from Iowa and elsewhere in the Midwest has set in motion profound consequences in the Gulf of Mexico — not only for shrimpers, but for other commercial fishermen and the related industries

they have spawned. The Gulf is the nation’s most productive shrimping area, producing 82 percent of the U.S. total in 2010, worth \$340 million at the dock, federal records show. Louisiana accounts for more of the haul than any other state, about \$130 million annually. But the Gulf isn’t just about shrimp. Finfish and shellfish landed by commercial fishermen total about \$660 million a year. It’s also a huge part of the re-

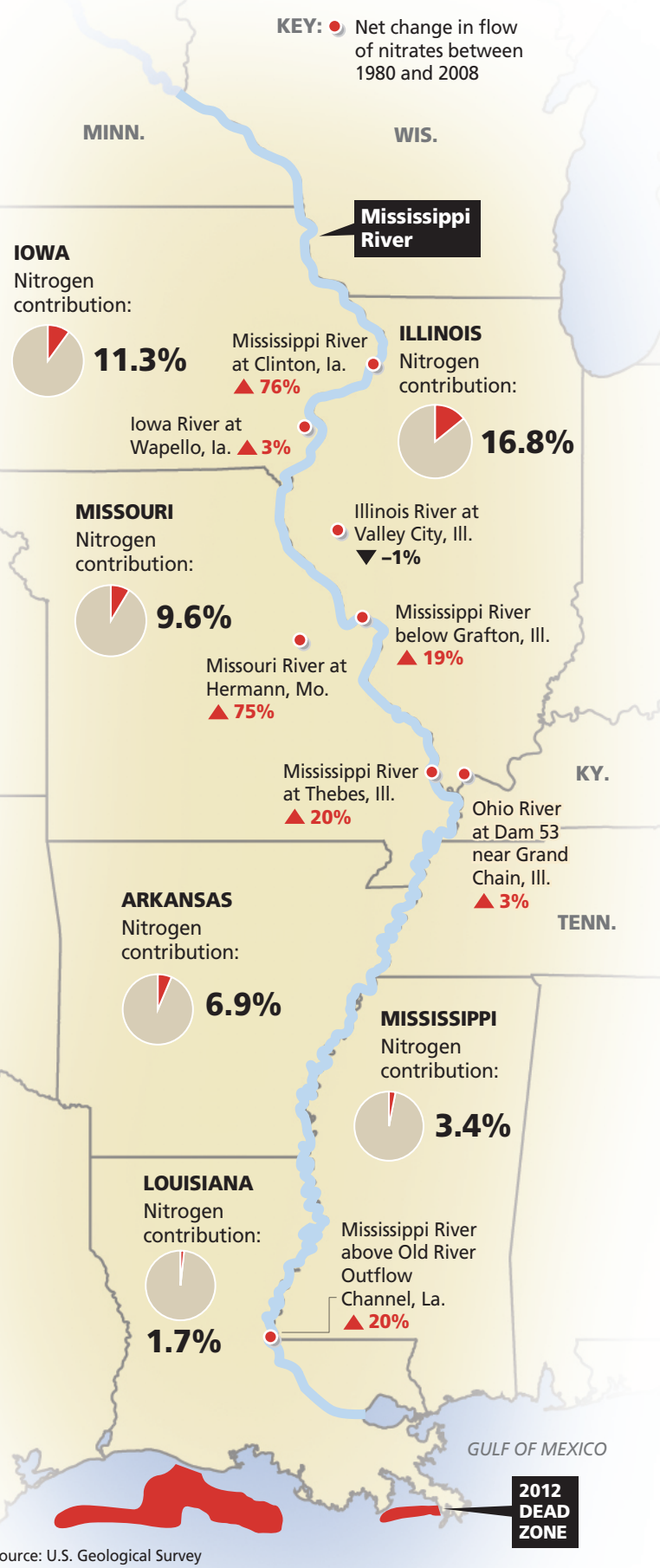
gion’s recreational and tourism industry. Anglers tallied 21 million trips in 2010, pulling some 145 million fish weighing a combined 59 million pounds from the Gulf and surrounding waters, federal data show. And just as Iowa corn growers spin off jobs in related businesses, the seafood industry also has its own legion of processors, distributors and the like. The National Marine Fisheries Service has reported that the commercial fisheries of the Gulf and bor-

dering waters generate about \$10.5 billion in sales and \$5.6 billion in income annually, supporting 200,000 jobs. Louisiana brown shrimp landings fell from 72 million pounds in 1990 to 17 million in 2010, according to the most recent available data. The poorest catches of the past two decades occurred after the record floods of 1993 pushed the dead zone across a larger area. As shellfish migrate in search of waters containing

more oxygen, shrimpers such as Darren Martin must venture farther out to sea in pursuit of his catch. “Unlike a farmer, we can’t see the crop,” said Martin, 46, who’s been shrimping nearly all his life. “If you’re used to going to a certain area, and you go out and the dead zone is there, you’re in trouble.” The farther shrimp boats must go, the more shrimpers pay in fuel and labor costs. Those who cast their nets into

Dead zone: Are we making progress?

This analysis by the U.S. Geological Survey suggests the success of efforts to cut fertilizer runoff and other pollution running to the Gulf of Mexico is mixed at best. While some river stretches had decreases in nitrates from 1980 to 2008, several had steep increases. And a Mississippi River stretch in the middle of Louisiana saw a 20 percent increase, just upstream from the Gulf.



Source: U.S. Geological Survey



Kevin Ross, in a field on his farm near Underwood, said farmers in Iowa have come a long way, using precision methods to reduce chemical runoff in waterways. REGISTER FILE PHOTO

FARMERS

Continued from Page 9A

Some question why farmers should be paid to take conservation measures that also benefit their crops and land. “It’s in the public’s interest to do that,” Friest said, referring to incentives for voluntary efforts to limit pollution. Such programs could improve water quality in farm states as well as in the Gulf, he added.

Friest, for example, uses equipment to help him track his chemical applications so he doesn’t use too much.

It’s important to note that nitrogen and phosphorus occur naturally and sustain all kinds of plants, including those in the Gulf, he said. The trick is to balance applications with what crops need.

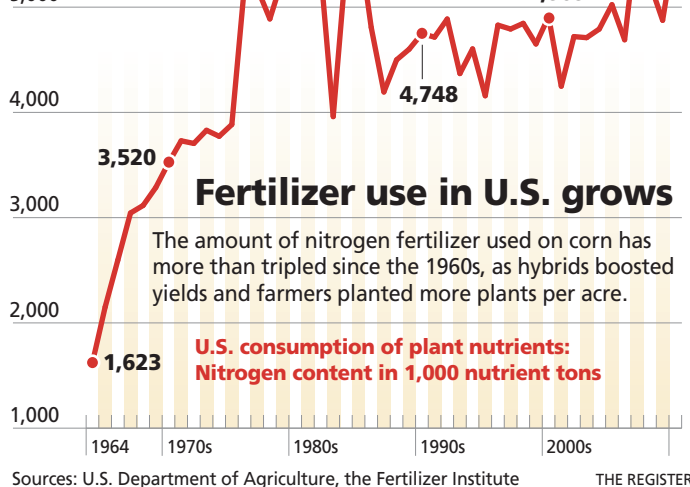
Friest and others admit that farmers need to do what they can to help sustain aquatic life downstream. “We as farmers need to look at lessening our footprint on the Gulf,” Friest said.

Kevin Ross, who farms near Underwood in Pottawattamie County, said some farmers question the true source of nitrogen in the Gulf, but they still try to prevent runoff.

“Blaming farmers in Iowa or Illinois, or the municipalities, really doesn’t get you

Fertilizer use in U.S. grows

Continued from Page 9A



Sources: U.S. Department of Agriculture, the Fertilizer Institute



Bill Northey Kevin Ross

add it to the soil, just as soybeans do now.

Other efforts are underway to help growers produce huge corn crops while easing the environmental load, Northey said. He noted that yields in the 1960s were typically 75 bushels an acre, but more-efficient hybrids now produce close to 200 bushels an acre with normal rainfall.

“We need to use the nutrients the way we want to use them, or a waterway that is dying before its time.”

“In particular, species that are sensitive to low levels of oxygen may be lost since the eutrophication is characterized by wide swings in oxygen, including ‘crashes’ during the nighttime hours,” said Skopek, who has studied Iowa’s rivers and streams for decades.

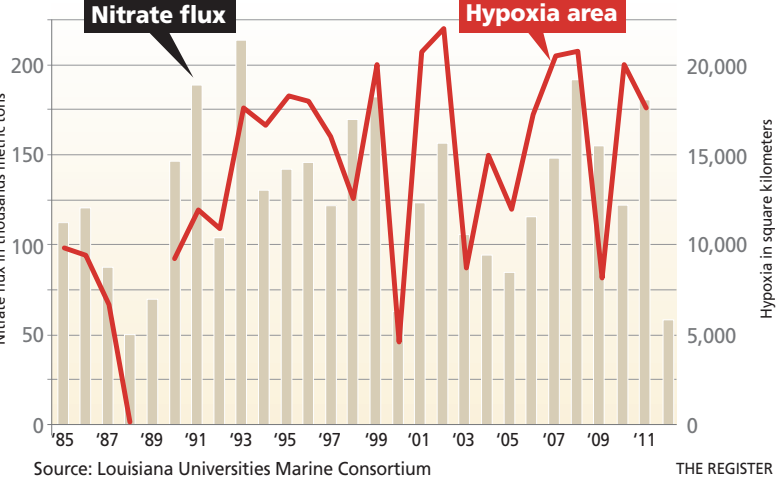
Eugene Turner, a hypoxia researcher from Louisiana State University, said the stakes are high not just for the Gulf — but for inland waterways, as well.

“It is a stewardship, health, quality of life, recreational and economic issue all rolled up together,” Turner said. “These nutrients delivered downstream have significant local impacts in streams, lakes, groundwater and terrestrial habitats.”

— Perry Beeman

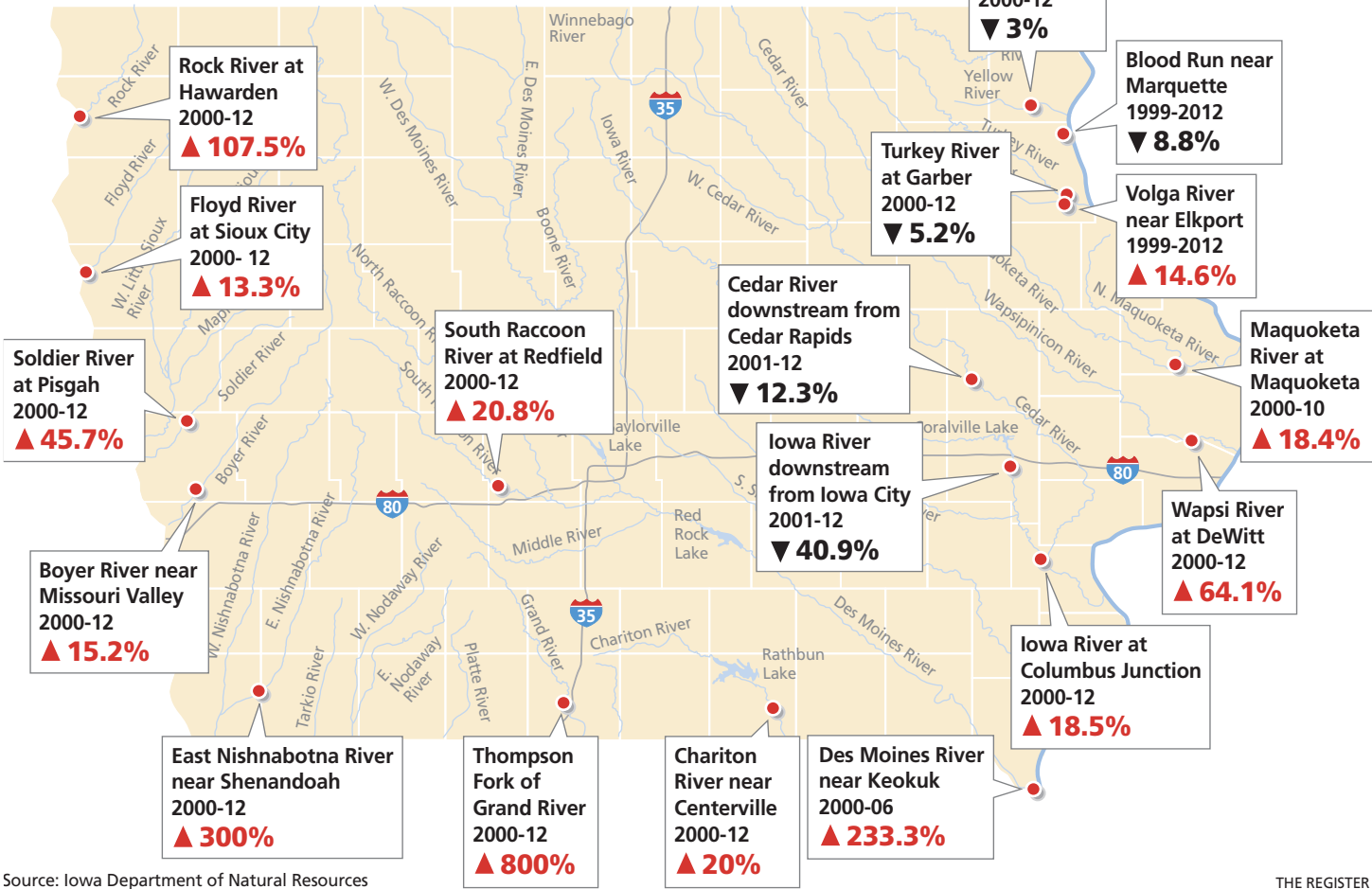
Dead zone fluctuates

This year’s dead zone in the Gulf was the fourth-smallest recorded since the research started in 1985, but still far larger than a federal task force’s goal. A comparison of nitrogen flows with the size of the zone shows that in flood years, such as 1993 and 1989, when the Mississippi River roared, the dead zone was far larger.



Rivers show nitrate increase, despite conservation efforts

Farmers have tried for years to reduce fertilizer runoff by changing tillage techniques and by planting wetlands and the like. But Iowa Department of Natural Resources records for the farthest downstream stretches of many Iowa rivers show nitrate concentrations are rising in many locations. Most of the rivers shown had levels below drinking water standards, and some large percentage increases came at spots with very low readings.



Source: Iowa Department of Natural Resources

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1972: Gulf of Mexico “dead zone” discovered, an area stretching thousands of square miles mostly devoid of oxygen, largely the result of fertilizer runoff from farm fields and sewage pollution into the Mississippi river, hundreds of miles upstream. A condition also known as hypoxia.

1985: Annual Gulf hypoxia measurements begin. The Gulf takes runoff from 41 percent of the continental U.S., all or parts of 31 states.

1993: Record Mississippi River flood balloons hypoxic zone to 6,800 square miles, double its previous size.

1995: Sierra Club and 16 other groups petition EPA and Louisiana under the federal Clean Water Act to convene a conference on the issue.

1995-1996: Workshops held in New Orleans, La., Albuquerque and elsewhere lay out the issue,



the effects of hypoxia and actions needed.

1996: The White House and the National Oceanic and Atmospheric Administration begin policy discussions. Six science teams are formed.

1997: The Mississippi River/Gulf of Mexico Watershed Nutrient Task Force is established.

1998: Congress passes the Harmful Algal Bloom and Hypoxia Research and Control Act to combat the threat of harmful algal blooms.

2001: A hypoxia assessment and action plan is delivered to President Bill Clinton just before President George W. Bush takes office. The plan calls for voluntary, incentive-based measures to reduce the five-year-average size of the dead zone to about 1,930 square miles.

2002: Dead zone reaches a record 8,400 square miles, about the size of New Hampshire.

2005: National Research Council begins a

Clean Water Act effectiveness study, eventually calling for water quality criteria for nitrogen and phosphorus in the Mississippi River and northern Gulf of Mexico.

2006: A review of hypoxia task force science begins. EPA convenes advisory panel.

2007: The advisory panel revises the hypoxia action plan. The science showing the link between runoff and hypoxia is strengthened. The panel recommends a 45 percent cut in nitrogen and phosphorus in the Mississippi River by 2015.

2008: Second National Research Council study refers to the Mississippi as an “orphan” river lacking a coordinated plan to address pollution. EPA finances a study on the effectiveness of various techniques to cut the amount of runoff getting to the Gulf.

2008: Another flood leads to a larger-than-average dead zone, 7,988 square miles.

2009: Louisiana State University researchers determine that ratio of corn versus soybean crops in the upper Midwest will shift from half-and-half to 60 percent corn in coming years. That’s significant because corn-growing is a chief source of nitrate runoff in the Gulf.

2009: Congress amends the Harmful Algal Bloom and Hypoxia Research and Control Act passed a decade earlier to authorize up to \$35 million annually to address the problem.

2012: Iowa Environmental Council joins with the Natural Resources Defense Council and others to sue the U.S. Environmental Protection Agency in an attempt to force action limiting nitrogen and phosphorus pollution.

2012: The dead zone is fourth-smallest on record, the result of prolonged drought gripping the Midwest. That’s still 50 percent larger than the target size of about 1,900 square

THE REGISTER

“The brown shrimp will migrate out there where the dead zone is, and they may die. That could be devastating. You’re killing the adult females that would lay the next crop.”

Scientists size up area of hypoxia in the Gulf

By Perry Beeman
pbeeman@dmreg.com

The Pelican research vessel was transformed at each sampling stop into a whirl of activity during its Gulf of Mexico monitoring cruise in July.

The main mission of the 13 scientists and students aboard the 116-foot ship owned by the Louisiana Universities Marine Consortium was to track patterns of low oxygen, also known as hypoxia.

The Pelican’s annual voyage is critical because the data gathered help scientists, nonprofit organizations, state agencies, and elected officials address runoff pollution affecting the Gulf. The provides the definitive measurement of the dead zone’s size each year, informing policy debates.

Each crew member had specific tasks during the 7-day cruise that began July 22.

Renowned aquatic scientist Nancy Rabalais, co-leader of the mission, joined assistants Lora Pride, Wendy Morrison, Chelsea Sexton and Leslie Smith in dispatching instruments to check the Gulf’s depths for suspended sediments and chlorophyll, both evidence that fertilizers from Iowa and other upstream spots are skewing Gulf biology.

They meticulously mapped the low-oxygen areas. And they shared their live results with the world via the internet.

BAYOU BITS

- » During the Pelican cruise, someone dropped a sample bottle overboard. Nancy Rabalais, co-leader of the annual dead zone check, said nothing. But her glare suggested she didn’t want to litter the very waters she was monitoring. Her husband, Eugene Turner, the other co-leader, quickly turned the incident into a carnival game, trying to scoop the bottle up with a bucket on the end of a rope. After several tries, he succeeded. “Saved 10 cents,” he declared.
- » Lopecy Rouse Bar and Grocery, along Highway 56, sells pickled pigs’ lips, pickled pigs’ feet, pickled eggs and chewing tobacco. The area has other similar small convenience stores and a Piggly Wiggly. Local motels cater to anglers. Homes in the area, some painted in bright Caribbean colors, stand on stilts.
- » One Cocodrie road has an appropriate name, especially in the fishing center of Terrebonne Parish: Shrimp Street.
- » Alligators are common along the bayou that runs through Terrebonne Parish. “I had to chase one out of here the other day,” said shrimp farmer Darren Martin. Hunting season quiets things down. “They wipe them all out, quick,” he said.
- » Signs at Martin’s Fresh Shrimp: “Friends don’t let friends eat imported shrimp.”

Tiffany Warner and Anya Hopple studied dissolved oxygen and respiration in the water column to measure how quickly it disappears and to track the formation of carbon dioxide. That helps them understand how the dead zone forms and breaks up as winds stir oxygen into the sea.

Eugene Turner of Louisiana State University used instruments to measure sulfide, a toxin that forms when the oxygen disappears. He also measured nitrogen, phosphorus and carbon levels, documenting the changes that occur and as the Mississippi River pours into the sea.

Patrick Jones of LSU analyzed metals in the low-oxygen waters. Research associate Xinning Hu

of the University of Georgia monitored pH readings as part of his work to track how carbon moves through the sea, and the water’s acidity. High levels can affect oysters’ ability to form shells.

When the monitoring cruise began, Rabalais warned her crew it was possible the prolonged drought gripping the upper Midwest might prevent them from locating any hypoxia. Without a large volume of freshwater entering the Gulf and forming a lid over the sea water below, a dead zone might not occur this year, she said.

Turned out, they found it anyway.

“What do you know? It’s hypoxic,” Turner declared after reviewing samples from one of the ship’s



Anya Hopple, research assistant for Louisiana Universities Marine Consortium, prepares water for testing aboard the Pelican last summer. She was part of a project to check the size of the Gulf’s dead zone. PERRY BEEMAN/THE REGISTER

ZONE

Continued from Page 10A

empty waters stand to lose as much as \$2,000 a day.

Like many here, Martin shrugs off what the changes have meant for his livelihood with an it-is-what-it-is kind of stoicism not unlike an Iowa farmer talking about a corn crop threatened by drought or hail.

“The saying goes: ‘Everything good comes down the Mississippi — and so does everything bad,’” Martin said as girlfriend Lillie Bishop sold the previous day’s catch out of ice chests at their roadside stand.

That doesn’t keep some from envying the corn farmers’ safety nets, however.

The federal government makes direct payments to corn growers that boost their income, but shrimpers are on their own, they grumble. Most Iowa farmers also buy taxpayer-subsidized insurance against crop losses; shrimpers have no such protection.

“If a corn farmer has a bad crop, the price goes up,” shrimp farmer Kenneth Theriot, 59, said of the supply-and-demand economics of agriculture as he painted the hull of his 50-foot shrimping boat.

“We have a bad season, and the price goes down,” he said, referring to the imported shrimp from China and other parts of the world that have flooded the U.S. market in recent years.

Corn grower: Don’t hurt us to help them

Crop and animal production is a \$7.4 billion industry in Iowa, accounting for more than 5 percent of the state’s gross domestic prod-

ABOUT THIS PROJECT

Environmental writer Perry Beeman of The Des Moines Register traveled in July to Terrebonne Parish in coastal Louisiana, a center of the \$400 million U.S. shrimping industry. It has been shaken by a succession of blows: hypoxia caused largely by runoff from farms in Iowa and the Upper Midwest, the 2010 BP oil spill, high diesel prices, lower shrimp prices and the loss of large swaths of coastal wetlands.

Beeman interviewed dozens of shrimpers, crabbers, fishing-charter captains, farmers, scientists and government officials. He examined data and documents from the U.S. Department of Agriculture, U.S. Geological Survey and U.S. Environmental Protection Agency, state data from Louisiana, and results of dozens of scientific studies to measure progress by state and federal authorities working to stem the flow of soil and nitrogen and phosphorus fertilizers into the Mississippi River. He also joined scientists aboard a research ship in the Gulf to observe their annual trek to measure the dead zone.

uct annually.

But Iowa also is home to rivers that are among the nation’s biggest contributors of Gulf-bound nitrates into the Mississippi.

A 2009 analysis of federal water quality data in various small stretches of streams in the Mississippi River watershed showed that portions of the Lower Wapsipicon, Lower Cedar, Middle Des Moines, Lower Iowa, Boone, and Middle Cedar were among the 100 largest contributors of Gulf-bound nitrates.

Bruce Rohwer, president of the 6,000-member Iowa Corn Growers Association, has farmed two miles north of Paullina in northwest Iowa since 1975. He grows corn and soybeans on 1,000 acres and raises 20,000 hogs a year in confinements.

He wants the Louisiana shrimpers — and Iowans, for that matter — to know that farmers have no reason to intentionally over-fertilize their fields.

“It is cash out of your pocket,” Rohwer said. “It’s the note at the bank to put nutrients on the ground for the next year’s crop. It is not in our interest for any of that to get away.”

At the same time, Rohwer, 60, acknowledges that some farmers need a push to do better. He wonders if a voluntary quality certification program might be worth a try. Farmers who proved they were using tillage and fertilization techniques that reduce runoff would get a certificate helping them convince environmentalists and customers they are doing their part.

But sometimes it’s hard to take the eyes off the pocketbook, he said.

“When a person owns a piece of ground, you’ve made an investment,” Rohwer said. “You are going to look at what return you can get. It’s not all about economics, but that enters into it.”



About the writer: Perry Beeman, a lifelong Iowan and graduate of Iowa State University, has been a Register reporter since 1981 and the newspaper’s environmental writer since 1992. Contact him at pbeeman@dmreg.com, (515) 284-8538, or follow him on Twitter at twitter.com/enviro-



DAVID CHAUVIN
shrimper, of Dulac, La.

DEAD ZONE

Shrimpers fear long-term harm from dead zone

But Midwestern farmers are not at fault, they say.

By Perry Beeman
pbeeman@dmreg.com

CHAUVIN, La. — Shrimpers gather each morning at Dirk Guidry’s Pizza Express restaurant across the street from the bayou here, where shrimp are so seared into the fabric of life that they and crayfish are featured pizza ingredients.

Much like Iowa farmers chewing over events over breakfast at small-town cafes 850 miles north, shrimpers attempt to solve the problems of the world and others closer to home. Within sight of the restaurant: a single-file row of shrimp boats sporting green nets and hauling hopes of better days. Some display “For Sale” signs, a nod to tough times here.

Spend much time near Louisiana’s Bayou, about an hour’s drive from New Orleans, and a few things become clear. Most shrimpers know the fertilizers running down the Mississippi are disrupting Gulf Coast fisheries. But they don’t harbor hard feelings toward Midwest farmers and most doubt much can be done about it.

“People talk about all the farmers along the river,” said Richard Pinell, 73, a retired shrimper who joined Guidry’s coffee klatch one July morning. “You can’t do anything about that. You can’t put them out of business for a few of us.”

A few miles away, Darren Martin was getting his shrimp boat ready for the next run.

“We don’t blame the farmers; they are just trying to grow a crop,” said Martin, referring to the fertilizers they lay down to make their crops thrive. “I hope they aren’t purposely exceeding what they need to do.”

David Chauvin, who

runs a marina and shrimp business in nearby Dulac, pulled up a chair and talked about fishing’s rocky future.

Chauvin sends his boats 10 to 20 miles offshore, where the shrimp are big and they find plenty of oxygenated waters.

But he worries the dead zone will do long-term damage to shrimp populations.

“The brown shrimp will migrate out there where the dead zone is, and they may die,” Chauvin said. “That could be devastating. You’re killing the adult females that would lay the next crop.”

In Cocodrie, shrimper Ky Nguyen arrived on a boat carrying a respectable load of shrimp that had been caught miles away.

“There’s no shrimp near shore,” Nguyen said as workers loaded the bagged shrimp onto pallets, then into a refrigerator truck. “So you burn more fuel and we spend a lot more for cable winch. And if something breaks, you can lose money.”

As Iowa has lost farmers, Louisiana has lost shrimpers. Some have turned to the oil rigs. Others opened convenience stores, restaurants or bait shops.

Roxanne Sevin, 56, owns several boats and runs RCP Seafood in Cocodrie. She was born here and still calls it home. She has diversified, buying shrimp and making and selling ice. But she’s upside down on a boat loan she took out a few years ago.

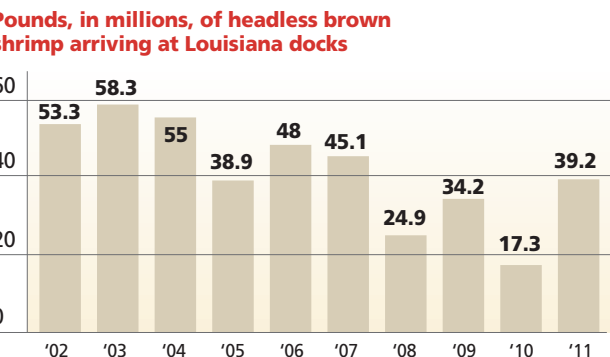
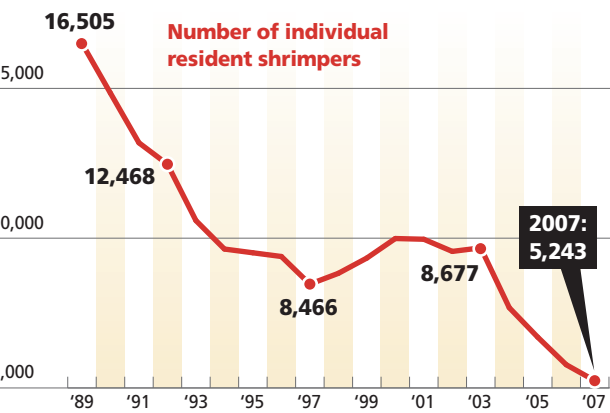
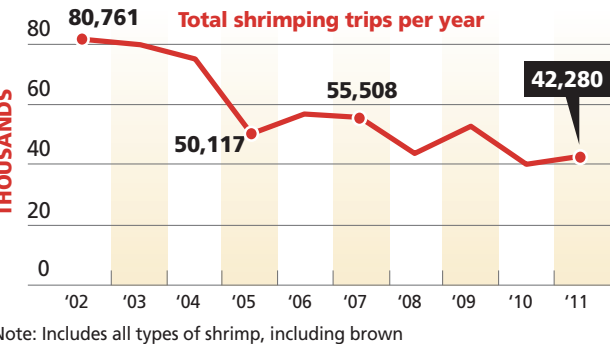
“We are only staying afloat,” Sevin said.

Young people here may have to look elsewhere for jobs, she said.

“You aren’t going to get the generations anymore,” Sevin said of the shrimping industry. “My grandparents did it. My dad did it, and I’m doing it. My son doesn’t want anything to do with it.”

Dead zone, oil spill pressure shrimp industry

The shrimping industry has faced several major challenges in recent years, from the dead zone to high diesel prices, coastal erosion and the BP oil spill. Data show fewer shrimpers making fewer trips, and, in some years, catching fewer shrimp.



Sources: Louisiana Department of Wildlife and Fisheries, National Oceanic and Atmospheric Administration